

CLAIMS

1. Method for monitoring and diagnosing errors for components of the drive train of a motor vehicle which are controlled and/or regulated by means of signals generated by a calculation algorithm, specially for a transmission control, characterized in that at least the transmission routes of critical signals and/or output variables are monitored.

2. Method according to claim 1, characterized in that the monitoring results by means of a plausibility check of signal variables generated by the calculation algorithm.

3. Method according to claim 2, characterized in that for plausibility check the signal variables are re-read and evaluated or compared with an adequate value at least close to an output position of a signal transmission route.

4. Method according to claim 3, characterized in that as output position is used the last possible position of the signal transmission route.

5. Method according to any one of claims 1 to 4, characterized in that on one nominal output value calculated by the calculation algorithm a check variable is modulated and that subsequently the re-read, modulated actual value is compared on the output position with the modulated nominal value.

6. Method according to claim 5, characterized in that the modulated variable has no, or very slight, effect upon the output variable proper.

7. Method according to claim 5 or 6, characterized in that for evaluating the re-read actual value it is checked whether the difference of the successive check values exceeds a specific preset amount.

8. Method according to claim 5 or 6, characterized in that to evaluate the re-read actual value the difference between the calculated nominal value and the re-read value is checked and/or that said difference is compared with the modulated check variable.

9. Method according to any one of claims 2, 3 or 4, characterized in that the plausibility check is carried out by means of a checking software extending parallel with the calculation algorithm.

10. Method according to claim 9, characterized in that the signal variables generated by the calculation algorithm are directly compared with a check value calculated by the checking software.

11. Method according to claim 10, characterized in that the checking software uses the same calculation algorithm and the same data on which are based the control and/or regulation of the components of the drive train.

12. Method according to claim 9 or 10, characterized in that the calculation algorithm of the output value differs from that of the checking software.

13. Method according to claim 12, characterized in that the data drawn for the calculation are stored doubled.

14. Method according to any one of claims 9 to 12, characterized in that the check data are stored in compressed form, the check data being generatable by means of software.

15. Method according to any of claim 1 to 4, characterized in that for the case of signal variables that are calculated only in certain situations, the calculation algorithm sets on a checking software a check indicator to signal the momentary non-calculation of the output value, said output value being re-read in the checking software and directly compared with a fixed output variable such as zero and the output value not being calculated by the calculation algorithm.

16. Method according to any of the preceding claims, characterized in that with the means of the used checking software, several signal transmission distances are examined on a plausible expenditure value.

17. Method according to any of the preceding claims, characterized in that the checking software in program run check is examined.